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SCHEMATIC STRUCTURES

Theodor H. Nelson

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This is an attempt to set forth a point of view I call "general schematics," which I have been working on a long time. This is not the first time I have attempted to do so.

The first attempt at organizing these thoughts was called "Schematics, Systematics, Normatics," and was handed in as a term paper in spring of 1958. (It was officially a term paper in Social Philosophy, taught by Michael Scriven at Swarthmore College.)

I have been driven to continue work on these ideas as an intermittent pursuit since that time-- nearly twenty-five years now-- accumulating tens of thousands of file cards and other notes on the spectrum of these subjects and their ramifications.

Further attempts at unified writings have been virtually disastrous, and this is the first unifying attempt since 1958 that I consider successful.

This is a continuation of my philosophical interests from earliest childhood. A strong influence on me in high school was Korzybski, whose ideas reached me through the writings of S.I. Hayakawa and John W. Campbell. Personal

contact with Leo Rosten, through family connections, alerted me in the early fifties to the theory of games and strategy and its coming place in the social sciences.

Later, in college, I was strongly influenced by both certain modern philosophers and social scientists. In philosophy, I was tremendously affected by the personality and views of Michael Scriven. Through him I was much moved by the Oxford analytic school-- especially Moore, Wittgenstein only indirectly; in the social sciences, B.L. Whorf, Marshall McLuhan, Talcott Parsons, Claude Levi-Strauss, Leonard Bloomfield, and Jean Piaget (for whose work I had a particular dislike, though it stimulated a lot of thinking. Also Margaret Mead and Dorothy Lee, whose discussions of the unity and integrity of folk societies led me to think about unity, integrity and society. Also Jerome Bruner in cognitive psychology considered as a branch of game theory. Noam Chomsky's book Syntactic Structures impressed me enormously, and the title of this little work is based on it. However, I was more affected by his teacher Zellig Harris, with whom I took two reading courses at the University of Pennsylvania.

In graduate school, I was particularly affected by the writings and personality of Thomas C. Schelling at Harvard. Personal contact with Talcott Parsons at Harvard had mixed results, both intellectually and emotionally. More

pleasant, and also stimulating, was work with Bruner, who had influenced me so much earlier. (It was he who brought to my attention the work of Ernst Cassirer, which brought back and clarified the monadologies of Leibniz, Spinoza and the later Whitehead that I had passed over before-- the "universal prehension of all particles"-- which turned out unexpectedly to return to Korzybski, and results here in the notion of Schematic Flux.) What understanding of the school of phenomenology may have seeped in also stems from this work with Bruner.)

GENERAL INTENTIONS

The intent of general schematics is

1) to provide a vocabulary (The Schematic Vocabulary) in which certain things can be said more easily than now, and

2) personally to use that vocabulary to say certain things I believe. (The Assertions.)

Note that the vocabulary and assertions are scrambled together in this paper.

A SET OF IDEAS

"Schematics" is a shorthand name for a point of view-- my own-- just as "dymaxion" is a shorthand name for Fuller's point of view and "structural-functional" is a shorthand name for Talcott Parsons' point of view. What part of these ideas we might consider "central" I don't know.

"Schematic" is thus an implied prefix to most of the other terminology here, sufficient to identify its viewpoint without unduly citing the author. "Thematic" and "Normatic" are the other two. (Where ordinary words are given special meaning here, such a prefix is presumably necessary.)

PRINCIPAL IDEAS

The central ideas in my 1958 paper were called Schematics, Systematics and Normatics. Interestingly, I have maintained substantially the same terminology: Schematics and Normatics are still central; Systematics I now consider a branch of Schematics and less central; and a new main topic, Thematics, has come to the fore. Thus if this paper were to be titled like the 1958 one, it might be Schematics, Thematics, Normatics. I make this remark merely for perspective.

After these overall areas (Schematics, Thematics, Normatics), we move to what I call the Topics-- those areas

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where the application of these ideas interests me. These include Doctrine, Zeitgeist, Personality, the Theory of Strategy, and the Theory of Caring.

Note, however, that the term idea is nowhere assigned a meaning. It is a hovering term, present everywhere: all the things we are talking about and classifying are "ideas." But this analysis and classification are the central undertaking here. Psychologists ask, "How do we perceive and remember ideas?" I am asking rather, "What kinds of ideas are there, and how are they structured, such that we can perceive and remember them?" This is like the difference between studying how we perceive maps, and what cities are actually like.

1. A Terminology

In the main perhaps this may best be thought of as a terminology. and perhaps that will be its general usefulness, if any. However, it is terminology that I would like to have handy in order to express a number of things that I would like to be able to express.

Therefore we might also compare this system of terminology with Iverson's APL-- which, he says, was originally intended as a generalized notation for mathematics, and merely "turned out to be a good way to

drive a computer."

This is not intended as a language for mathematics, which already has one. This is intended as a language for general ideas, insofar as general ideas do not have one.

It is my view that one reason people in general do not have well-formulated ideas, or many of them, is that too few terms are available. The more words you know, the more well-formulated thoughts you can have.

A number of the terms and ideas-- perhaps all of them-- I conceive also to have applications in the social sciences. Providing a profuse new vocabulary is a rather new paradigm. (The social sciences are still confused by the paradigms of Linnaeus and Newton.)

All of the following terminology is tentative. Or rather, the meanings to which I wish to assign terms are generally set; I am still proceeding slowly as to which English words I want to apply to specific meanings. There are also a few terms, such as "schematics" itself, which I am determined to use but undecided as to certain exact shadings.

It is therefore one of my principal hopes that by providing a number of new words, and well-cloven <WTT?

distinctions, people will be able to express more easily things which were previously very hard to say; or be able to state exactly things which they could not say before. (A few of these words have been adopted within a small circle; but it is not merely their adoption, but their usefulness, that I crave.)

Now, Academia is littered with the carcasses of words that were coined with the best intentions but did not prove useful. For instance, I once had an office at a certain college in a building called Blodgett Hall, or, according to its chiselled and emplaqued inscriptions, "The Minnie Cumnock Blodgett Hall of Euthenics." According to a plaque, Ms. Blodgett was not merely the philanthropist who gave the college the hall, but she was the coiner of the term "Euthenics," which if I recall correctly meant approximately "the science of right living." (She intended the word to be parallel to eugenics, the science of right breeding.) This is a nice example of a cute coinage which is not very useful, simply because there is no science of right living. Nor is there any organized study that could reasonably be grouped under that name.

This is an example of how we try, with words, to make things come out certain ways, and I have done the same thing in various settings. But that is not the intent of this study.

I hope the vocabulary will be useful to everyone, whether or not they agree with anything I say using it.

Finally, my hope is of providing a lingua franca for the social sciences that will allow assertions to be exactly stated and understood across boundaries of fields, doctrines and paradigms.

Selection of terms

I have tried for a balance between unusual terms (which will definitely be associated with this point of view) and the selection of ordinary terms frozen in some exact sense to which they have been strongly connected in ordinary language. (I have also included here some ordinary terms used in substantially ordinary ways-- e.g. "abstraction"-- to show how they relate overall.

2. Possible Insights

Note that I do not hope to change or replace good work, but through this vocabulary to point out (with both The Schematic Vocabulary and The Assertions) interesting connections and unifications which may not have been noticed.)

I suspect I may also have a few curious insights to offer into such people as Hegel, whose own forms of expression tripped them up and who may have had more to offer than we now recognize-- points missing in latter-day interpretation.

3. Technical Philosophy

I anticipate-- indeed, I hope-- that this work in the long term fits into technical philosophy. However, it casts tinsel into a number of other areas, especially the social sciences.

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A Working Paper

This is of course highly unfinished. While eventually it is intended for presentation to the academic community, presently I am offering it only to the most sympathetic friends-- those who can read it with much benefit of the doubt.

THE VOCABULARY

Typesetting conventions for this paper.

1. In the following definitions I will use an asterisk before words which have been selected tentatively, or the alternative choices of word which are still candidates for a given meaning. Asterisks also indicate the less preferred choices.

An asterisk before a definition means that the word has definitely been selected but the boundaries of its meaning have not.

In some regrettable but undecided cases, the same term has been proposed for more than one meaning.

2. The canonical appearance of a term will be in boldface. Other occurrences of it will be capitalized, to assure and remind that we are using it in some sense as a technical term detached from its history and other attachments in our minds. There is no requirement or expectation that these terms should be capitalized if they reach general use. It is meant only as a presentational technique in the present document.

3. Views of the author, where they can be segregated, are prefaced with the symbol >.

schematics

*The general study of correspondences between relations.

Numerous related subjects: those topics and terms to be enumerated.

general schematics, General Schematics

The concerted or consistent use of this terminology; the general point of view of the author.

schematic

pertaining to relational structures, correspondences and various other things.

Note that the word Schematic may be taken as an implied prefix to all other terminology, useful:

a) when stressing that these terms are being used in the general way suggested by this vocabulary,

or b) when suggesting they are used in a way meant by this author.

structangle

Interrelated set of relations considered all together as a united whole. Thus Euclidean geometry, which is

usually presented as broken into a set of axioms, may also be considered a Structangle, as may any other organized set of ideas regardless of expression.

A structangle may contain principles and instances (see Thematics).

structure

any set of relations or (loosely and perhaps regrettably) object.

fusion

The combining of two structangles.

(Question remains as to the technical relation between numerous forms of attachment for which I am presenting terms here: Fusion, Coupling of Structors, Compression for Abstraction, Izzing for Abstraction, and Compaction. This is an open issue of terminology and theory.)

decomposition (noun), **decompose** (verb)

***decomp** (noun), **decomp** (verb)

Some listing, analysis or enumeration of all the parts of a Structangle.

Axiomatics is thus subsumed. Euclid's axioms may be regarded as only one possible Decomp of the structangle of Euclidean geometry. Many different sets of the theorems of Euclidean geometry might be taken as axiomatic Decomps instead, from which the original axioms could themselves be

derived.

subdecomp

Some listing, analysis or enumeration of less than all the parts of a Structangle.

> Descriptions are subdecomps.

aspect

* Subdecomp, esp. one which permeates and interpenetrates other elements.

structor

Any element or relational portion, or usable component which may contribute to the contents of a Structangle.

coupling

specifying as identical an element in one structor with an element in another structor, thus allowing them to be combined.

***formulation**

***locution**

The words and relations chosen to express a Structangle or Abstraction, as distinct from the actual interrelationships embodied in it.

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(Cluster of Imaginary Schematics)

The following are related:

imaginary schematics

Enumeration of and references to relations for which there is no particular evidence, but which may be said to exist by some sort of fiat or courtesy, e.g. "all the lines through a point," "all the possible orbital trajectories below 500 miles," "all the angles in a room."

schematic flux

The imaginary fibrous clumps and bundles of possible relations, especially when they are many and closely alike and parallel. (Cf. lines of magnetic flux.)

> Note that the Brouwer fixed point theorem in mathematics may be looked on as an analytical reduction of a complex schematic flux.

schematic manifold

Any fairly complex structure of possible or imaginary schematic relations; in the degenerate case, any relational

structure.

schematic tunnel

Schematic manifold in which continuous changes bring about apparent continuous changes in the amount and connectivity of schematic flux.

Example: staring out the back of a car as you ride in a car, things apparently rush toward the center of departure from the frame of vision. The visually apparent schematic flux of all the visible relations is changing continuously as you move continuously.

(Cluster of Abstractive terms under Schematics)

The following are closely related terms:

***concreteness**

***concretion**

***thing**

***whatnot**

Physical or otherwise real object, relationship or

structure in reality, as used in the abstractive process.

Note that the term Object is not used because that implies that it has a given and certain border in all its properties, rather than one which is arbitrated by the abstracter in the abstractive process (and especially in the process of establishing such boundaries). Indeed, we should speak at the technical level of different "objects" as different zones of concreteness.

Note that a Concreteness is different from a Structangle in that a Structangle is an abstract model, all of whose parts may in principle be enumerated.

> All the parts, relations and aspects of a real object or concreteness cannot in principle be enumerated.

abstraction

A multipart process of finding and expressing commonalities. Significant parts include:

comparison

The process of examining concretenesses for correspondences and commonalities.

***abstractive set**

***abstraction set**

Those entities which are Izzed in the process of abstraction.

alignment

act or process of setting up and assigning details of a correspondence relation between two structures.

correspondence

*Act or process of holding two structures in a part-to-part relation.

*izzing (from "is")

*copulation

*identity-coupling

Act or process of asserting that things are the same.

Act or process of holding two structures in a part-to-part relation.

commonality

Property or relation found by the process of Abstraction, whether or not expressed in a Formulation.

> A Commonality of Structangles is a Subdecomp identical in both.

> Note that the *Formulation or *Locution of a Commonality is the assignment of words to the discovered system of relations-- an additional level of Complication.

compress (verb)

Hold together Concretenesses in an Abstractive Set.

***boundary**

***abstractive boundary**

***abstractive-set boundary**

Dividing line between those things included in an abstractive set and those not included.

nizzing

act or process of establishing or declaring that something is outside an abstractive boundary and not part of the abstractive set.

co-occurrence class

Commonality based on apparent instances being found in common company. (Foundation of American linguistics from early 20th Century until Chomsky: co-occurrence defining both phonemes and morphemes. Generalized by Zellig Harris as methodology for finding other structures. Generalized by Levi-Strauss to supposed anthropological and psychological structures.)

(Cluster of Spatial terms under Schematics.)

The following terms are closely related.

***schematic space**

***Nelspace**

***Humpty-Dumptoid space**

Space, or set of compound surrounding or background relations, exactly defined by a specified structangle of structors. May or not bear any relations to Euclidean notions of space or orthogonal notions of property-space. (Consisting of "exactly what I mean, no more, no less..." after Carroll's Humpty Dumpty.)

partial (verb)

***cleave**

***transdimensionalize**

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Extend a space in a new dimension, orthogonally.

Example: Lazarsfeldian property-space, in survey research, which may at any time be Partialled on a new property, giving it a new dimension.

compact (verb), **compaction** (noun)

***collapse** (verb and noun)

To close a dimension, either along a dimension of cleavage where it has previously been partialled, or along some other system of properties.

(A theoretical question exists as to the relation of Compaction to Fusion. Are they exactly the same? Are they similar? Are they Fusible?

<WTT

***spatial operations**

***Nelspace operations**

***elaboration** (Lazarsfeld's term for partialling and
compaction in property-space)

The operators in generalized Nelspace of partialling,
compaction and restructural alignment or formulation prior
to compaction.

***(term missing)**

restructural alignment or formulation prior to
compaction.

thematics

The generalized study of principles and their relation to instances.

The traditional study of the relation of principles to instances has been logic, especially deductive logic and axiomatics. Logic has dealt with precisely statable principles and what may be deduced from them.

The proposed generalization to Thematics includes not merely principles which may formulated precisely and support deduction, but principles which cannot be formulated precisely and do not support deduction. While this may weaken the subject to areas not interesting to logicians, I consider it important and that is why it is here.

hard logic and soft logic

Distinction between areas of Thematics which support deduction and those which do not. (Thus "hard logic" is a revised term corresponding to conventional logic, useful whenever the distinction needs to be emphasized.)

principle

*theme

*prin

Thing which unifies a collection of instances. (The terminology is from music, where we may recognize several instances of "the same theme" in a symphonic work, yet be unable to supply any precise definition-- except the separate examples-- of what constitutes that particular theme.)

Working from conventional logic into the softer areas, we may consider a hierarchy of principles:

1.

predication

***pred**

***hard principle**

Principle which may be stated precisely, susceptible to deduction.

2.

***mixed principle**

***Firm principle** (by analogy with "firmware," between
hard and soft)

Principle with parts which may be stated precisely,
parts which may not.

3.

soft principle

Principle which can be stated or indicated only vaguely
and which is not subject to deduction.

What a soft principle is not:

Mathematical fuzzy set. This is something precise that may turn out to be related, but don't hold your breath.

Psychological concept or grouping. A soft principle is an abstract entity which may turn out to be a good model for psychological concepts, but that is not today's subject.

A pathological case. Much confusion has arisen in Western thought from the efforts of logicians and deductive sympathizers to show that all thought or right mental conduct was "really" deduction, or should be. I see this as due to not seeing the irreducible and rightful vagueness of most cognition.

4.

motif

Very soft principle, which unites instances in a the loosest possible way.

Example: a musical motif, which appears or is suggested in various dissimilar forms (dissimilar in any precise sense of being able to specify precisely).

Example: a grade-school dance with a "space" motif, in which rooms, objects and persons are arbitrarily assigned identities having to do with "space," there being no consistency or structure in the overall assignments--planets, rocketships, "man in the moon," etc.

instance

Element threaded by a Theme.

threading

The Collection of Instances under Themes.

> Generalization of predication to themes of all degrees of hardness.

hard structangle

Structangle of only hard principles and thus subject to deduction (e.g., Euclidean logic).

soft structangle

Structangle composed of only soft principles (hypothetical and expected to be rare).

***mixed structangle**

***firm structangle** (analogy with firmware, bet. hard & soft)

Structangle containing a mixture of hard and soft principles, or which may be decomposed into a mixture of hard and soft principles and their instances.

(move this to SKX&TX)

resonance

apparent commonality between Thematic Instances or Compressed Structures.

ramification

Something which follows from, or might follow from, or might be Consonant with, a Theme.

> This is the generalization of Deduction to soft cases.

contrapolation**soft paradox**

Apparent inconsistency between thematic expectations.

> Thematic generalization of contradiction.

Examples: irony, incongruity.

complication

co-ramifications which involve Contrapolations or confused expectations, predictions or deductions among different Themes.

(Cluster of **Specificational** structures and relationships under Thematics)

The following are related:

specification

Relation which is taken as in some sense definitional, by the constraints it places on that which is specified. Specifications may be hard or soft.

specifier

That which specifies something in the specification relationship.

soft specifier

That which specifies something imprecisely, as distinct from a Definition.

definition

Hard specification.

second-order specification

Something C which specifies B which is already specifying A.

higher-order specification

Something which specifies something which is in turn specifying something else, e.g. a definition of a term in a definition.

articulation

The connective structure of a higher-order specification.

respecification

Changing of specification or articulation structure.

constraints

Enforced specifiers.

***apartness constraint**

***discommonality constraint**

***negatory constraint**

Specification that two things must be different.

(Cluster of Thematics and Schematics)

> The combination of Schematics and Thematics is the most difficult area theoretically.

THREADS AND PREDs:

- > Every Commonality is an implicit Principle.
- > A Theme (Pred or softer Theme) is implicit in any Commonality or Resonance as its Specificational Articulation.

(NORMATICS Cluster)

normatics

The study of systems and Structangles of:

1) rules and advice, "laws" of what to do to benefit or succeed in various circumstances, pointers and rules of thumb.

2) usages of "Should."

Close parallels and Fusions exist with all Aspects of Schematics and Thematics.

> A set of rules is a structangle whose payoff expectations constitute a Specificational Articulation corresponding in some sense to the truth-expectation Specificational Articulation of a Structangle of empirical assertions.

> Legal definitions are a complex system of Articulations.

> A set of rules or laws is the Compaction of many Instances, each relationally definable, much as an empirical generalization is the Compaction of many instances of

relationally Articulated entities.

And lots more...

higher-order specification

Something which specifies something which is in turn specifying something else, e.g. a definition of a term in a definition.

articulation

The connective structure of a higher-order specification.

constraints

Enforced specifiers.

*apartness constraint

*discommonality constraint

*negatory constraint

Specification that two things must be different.

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(Topics begin here.)

(Topic of Doctrine.)

The following terms are related:

doctrine

Structangle of interrelated assertions.

DOCTRINE
ZEITGEIST
HOLISTICS
CHARISTICS
STRATEGICS

"TOPICS"



doctrinal operations

Operations upon a doctrine to maintain its integrity, either in terms of perceived internal consistency or perceived consistency with external reality.

> These can include redefinitions and respecifications; softening of hard specifications and vice versa; redecomposition; re-emphasis.

> The special contribution of great doctrinal thinkers, such as Moses and Jefferson, has had to do with the decomp and selection of especially potent axiomatic reductions--potent psychologically, vivid, easy to enforce.

> Various commonalities among doctrines may be found. This is of course old hat among those who have found similarities among Catholicism, Communism, etc. Fascinating similarities and differences need to be studied, e.g. procedures for finding consistency (e.g. Supreme Court, deliberations of the Communist Party, Papal Infallibility) and their detailed consequences for soft and hard principle.

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(Topic: Personality and Cognition)

> Personality and cognition are in some sense indissoluble.

> Both are areas in which the maintenance of integrity is seen as important by the individual.

> There are major relational commonalities within given personalities over time. These represent commitments.

> There are major commonalities between personalities.

ZEITGEIST

> There are major commonalities between societies.

...

New emergent themes and motifs keep occurring which are an important caristic part of the sense of progress.

ART

> Soft principles evolve in continuing negatory constraint-- new Principles of Art continually appearing that have to seem different from the previous.

THEORY OF WHOLE STRUCTURES

holistics

The theory and study of structures and objects with important wholeness-properties.

W-property

Wholeness-property; emergent property of the whole

which is important.

W-structure

Structure whose overall relationships are crucial to understanding.

THEORY OF CARING

caristics

The study and theory of caring.

> The theory of utility, as proposed by Bernoulli and elaborated by economists, is locally meaningful but globally absurd. Caring is typically a W-structure, except for people whose announced carings may be demonstrated to be inconsistent (a pathological condition).

> Strategically, caring is also strongly related to strategic commitment in the intrapersonal game.

Theory of Strategy

strategy

The study of alternatives and options, especially those dealing with conflict, commitment and communication.

> Conventional-- e.g. Freudian and fluffy thinking-- considers the individual human being as given and subject to pathologies of attitude and viewpoint; then considers the nation by analogy, and says that world leaders "act like

children." I consider it conceptually more fruitful to turn this around, and consider the canonical, simplified strategic case to be the (simplified) nation-state; then the addition of successive layers of complication finally yields the human individual, a multilayered and conflicted object whose mentality contains many interacting strategic entities.

(Note that the conventional distinction between Strategy and Tactics is fruitless and discarded, since we are discussing Strategy in the broad and abstract case.)